REMARKS

In response to the above-identified Final Office Action, Applicants amend the application and submit the following remarks. In this response, Applicants' amend Claims 1, 11, 23 and 28. Applicants cancel Claims 6, 14 and 16. Accordingly, Claims 1-5, 7-13, 15 and 17-30 are pending.

Claims Rejected Under 35 U.S.C. §103

The Office rejected claims 1-7, 8-16, 18-25, 27, 28 and 30 under 35 U.S.C. §103(a) as being obvious over Ohashi, et al. U.S. Patent No. 5,764,483 (hereinafter "Ohashi") in view of Van Brocklin, et al. U.S. Patent No. 6,047,766 (hereinafter "Van Brocklin"). The Office states that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the cooling unit of Ohashi with the temperature sensor of Van Brocklin, so that when sensing the temperature of the electronic device it initiates fluid movement when the threshold temperature is detected. Applicants respectfully disagree.

In order to render a claim obvious, the relied upon references must teach or suggest every limitation of the claims, such that the invention as a whole would have been obvious at the time the invention was made to one skilled in the art. To combine references, the Office must show that the elements are taught or suggested by the references and that the references can be combined and that the references suggest or motivate such a combination. Ohashi discloses a liquid driven between the heat receiving header (14) and a flow passage (36) of the heat dissipation header through flexible tube (18) by means of a liquid driving unit (40), which is separately provided. Ohashi fails to teach or suggest a temperature sensor coupled to a processor which causes the fluid flow in a tube when the temperature reaches the threshold. The failure of Ohashi to teach, suggest, or motivate towards a temperature sensor coupled to the processor and the pump is fatal to the asserted rejection.

Van Brocklin discloses a passive heat pipe coupled between the heatsink area and an electronic device. Van Brocklin further discloses a logic circuit and a sensor. The sensor is timed to the logic circuit for determining when the component is too hot. The logic circuit controls a fan (60) which is combined with the heatsink area. When the component is too hot, the sensor informs the logic circuit of this state and the logic circuit controls the fan to circulate air over the heatsink area. The air circulated over the heatsink area is an open loop system wherein the air is passed over the heatsink once and then discharged.

Van Brocklin fails to suggest or motivate the closed loop fluid cooling system placing a first and second heat transfer plate in fluid communication with each other. Thus, Van Brocklin fails to cure the defect of Ohashi. The failure of Van Brocklin to cure the defect in Ohashi is fatal to the asserted rejection.

The Office further states that Van Brocklin discloses that those skilled in the art will appreciate that the logic implementations exist other than that shown in the exemplary embodiment quoting col. 6, lines 58-60. Applicants respectfully traverse this citation.

Van Brocklin cites at col. 6, lines 58-67 "[t]hose skilled in the art will appreciate that other logic implementations exist other than that shown in the exemplary embodiment to control the magnetic valve 20 and fan 60 and still fall within the scope and spirit of the invention." Van Brocklin gives as an example, alternative embodiments that have been contemplated where different subsets of the decision blocks 410-440 are present. Indeed Van Brocklin states "one of these alternate embodiments eliminates all of the decision blocks 410-440 and 470-480, with start block 400 connected directly to block 450 and having block 490 only closing the valve." Thus Applicants respectfully submit the alternative embodiments disclosed by Van Brocklin disclose only alternate implementations of the logic circuit by tailoring the decision blocks themselves. Van Brocklin limits these alternate logic embodiments to only closing the valve.

The Office is correct in stating so long as it (reconstruction based on hindsight reasoning) takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include

knowledge gleaned only from Applicants' disclosure, such a reconstruction is proper. (*In re McLaughlin* 43 F.2d 1392, 170 U.S.P.Q. 209(CCPA 2972) However, Applicants respectfully submit, the cited references must contain a suggestion or motivation to combine references to form a trend. "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under Section 103, teachings of references can be combined *only* if there is some suggestion or incentive to do so." ACS Hospital System Inc. v. Montefiore Hospital, 221 USPQ 929, 933 (Fed. Cir. 1984). (Citations omitted.)

Applicants respectfully submit as stated above Ohashi and Van Brocklin fail to supply the suggestion or incentive required for the limitation of the present claims. Therefore, Applicants respectfully request the rejection of claims 1-7, 8-16, 18-25, 27, 28 and 30 under 35 U.S.C. §103(a) as obvious over Ohashi in light of Van Brocklin be withdrawn.

The Office rejected claims 7, 17, 26, and 29 under 35 U.S.C. § 103(a) as being unpatentable over Ohashi in view of Van Brocklin as applied to the claims above, and further in view of Mizuno, U.S. Patent No. 5,333,676 (hereinafter Mizuno). The Office states giving the teachings of Mizuno, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the cooling system of Ohashi with a fluid container coupled to a tube having a sensor for sensing when fluid is slow in a fluid container. Applicants respectfully disagree.

Ohashi discloses a liquid driven between the heat receiver header coupled to a heat generating semiconductor device and the flow passage of the heat dissipation header through flexible tube 18 by means of a liquid driving unit 40 which is separately provided. Ohashi fails to disclose a temperature sensor coupled to a processor which causes the fluid to flow in the tube when the temperature reaches a threshold. Ohashi fails to suggest or motivate towards a temperature sensor coupled to a processor which causes fluid to flow in the tube. Van Brocklin fails to disclose, suggest, or motivate towards a control logic circuit coupled between a processor and a liquid driving unit. Mizuno fails to teach, suggest, or motivate

towards a sensor coupled to a processor which causes fluid flow when the temperature reaches a threshold.

Neither Ohashi, Van Brocklin, or Mizuno teach or suggest the features of coupling a fluid level sensor and a temperature sensor to a fluid pump to regulate the behavior of a closed loop cooling system in a portable computing system. Applicants submit that the Office has provided insufficient justification for the combination of Ohashi, Van Brocklin, and Mizuno. The combination of Ohashi, Van Brocklin, and Mizuno in an *a la carte* reconstruction using the Application as a blueprint is both unsupported and impermissible.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending (a) are in proper form, (2) are neither obvious nor anticipated by the relied-upon art of record, and (3) are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the Application forward to allowance, the Office is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 and 1.17, particularly extension of time fees.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN LLP

Dated: 2/14/02

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CERTIFICATE OF MAILING:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on February 14, 2001.

Diane Martinez February 14, 2002

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Claims 6, 14 and 16 have been canceled.

The claims have been amended as follows:

1. A method comprising:

coupling a first heat transfer plate to an electronic component in a first part of a portable computing device and a second heat transfer plate in a second part of the computing device; ~~and~~

sensing the temperature of the electronic component;

causing a fluid to move when a threshold temperature is detected; and

circulating the ~~a~~ fluid between ~~one of~~ the first heat transfer plate and the ~~a~~ second heat transfer plate.

11. A heat exchanging system comprising:

a first heat transfer plate coupled to an electronic component located in a first part of a portable computing device and by a closed loop tube to a second heat transfer plate located in a second part of the portable computing device; ~~and~~

a pump coupled to the closed loop tube;

a temperature sensor coupled to the electronic component and the pump; and

a fluid for circulating through ~~one of~~ the first heat transfer plate and the second heat transfer plate.

23. An apparatus comprising:

a heat generating element disposed in a first part of a portable computing device;

a first heat transfer plate coupled to the heat generating element;

a second heat transfer plate disposed in a second part of the portable computing device;

a tube coupled to the first heat transfer plate ~~part~~ and the second heat transfer plate ~~part~~ of the portable computing device; ~~and~~

a pump coupled to the tube;

a temperature sensor coupled to the pump and the heat generating element; and

a fluid for circulating through the tube, the first heat transfer plate ~~part~~ and the second ~~part~~ heat transfer plate of the portable computing device.

28. An apparatus comprising:

a tube disposed in a portable computing device;

the tube coupled to a first heat transfer plate and to a heat generating device; ~~and~~

a pump coupled to the tube;

a temperature sensor coupled to the heat generating device and the pump; and

a fluid for flowing through the tube when the ~~a~~ temperature sensor attains a threshold temperature.